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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693.990	10/28/2003	Kia Silverbrook	ZG007US	6636
24011	7590	01/11/2005	EXAMINER	
SILVERBROOK RESEARCH PTY LTD			DO, AN H	
393 DARLING STREET			ART UNIT	
BALMAIN, 2041			PAPER NUMBER	
AUSTRALIA			2853	

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No. 10/693,990	Applicant(s) SILVERBROOK, KIA	
	Examiner An H. Do	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication:
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 8 is/are rejected.
- 7) ☒ Claim(s) 2-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/112,815.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/28/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/112,815, filed on July 10, 1998.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 28 December 2003 was filed and is being considered by the examiner.

Specification

3. The disclosure is objected to because of the following informalities: incomplete phase in specification on page 1 line 1 after "November 23, 2002" should include the following:

" , now U.S. Patent No. 6,644,767, which is Continuation of 09/855,094 filed May 14, 2001, now U.S. Patent No. 6,485,123, which is Continuation-in-part of 09/112,815 filed July 10, 1998, now U.S. Patent No. 6,247,792."

Appropriate correction is required.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225

USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 5 of U.S. Patent No. 6,485,123. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the instant application and U.S. Patent No. 6,485,123 claim the same subject matter such as an inkjet printhead chip having the same structure as shown in the following Claim Comparison Table:

U.S. Application No. 10/693,990 CLAIM

1. An ink jet printhead chip which comprises:
a substrate that incorporates drive circuitry,
a plurality of nozzle arrangements positioned on the substrate, each nozzle arrangement comprising nozzle chamber walls that define a nozzle chamber and an ink ejection port in fluid communication with the nozzle chamber, the nozzle chamber being in fluid communication with an ink supply channel through the substrate for supplying the nozzle chamber with ink;
a closure that is operatively positioned with respect to the ink supply channel, the closure being displaceable between a closed position in which the closure closes the ink supply channel and an open position in which ink is permitted to flow into the nozzle chamber; and
an actuator that is connected to the drive circuitry and the closure so that, on receipt of an electrical signal from the drive circuitry, the actuator can act to displace the closure between the closed and open positions;
an ink reservoir in fluid communication with each ink supply channel; and
a source of oscillating pressure that imparts an oscillating pressure to ink in the reservoir, so that, when the closure is displaced into the open position, a drop of ink can be ejected from the ink ejection port.

U.S. Patent No. 6,485,123 CLAIM

5. An ink jet printhead chip which comprises
a substrate,
a plurality of nozzle arrangements positioned on the substrate, each nozzle arrangement comprising nozzle chamber walls and a roof wall that define a nozzle chamber and an ink ejection port defined in the roof wall in fluid communication with the nozzle chamber; and

a closure that is operatively positioned with respect to the ink ejection port, the closure being displaceable between a closed position in which the closure closes the ink ejection port and an open position in which ink ejection port is open, on receipt of an electrical signal,

an ink reservoir, the ink reservoir being in communication with each nozzle chamber; and
a pressure generating means associated with the reservoir for imparting an oscillating pressure to ink in the reservoir, so that, when the closure is displaced into the open position, drop of ink is ejected from the ink ejection port.

6. Claims 1 and 8 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6 and 12 of U.S. Patent No. 6,644,767. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the instant application and U.S. Patent No. 6,644,767 claim the same subject matter such as an inkjet printhead chip having the same structure as shown in the following Claim Comparison Table:

U.S. Application No. 10/693,990 CLAIMS

1. An ink jet printhead chip which comprises:
a substrate that incorporates drive circuitry,
a plurality of nozzle arrangements positioned on the substrate, each nozzle arrangement comprising nozzle chamber walls that define a nozzle chamber and an ink ejection port in fluid communication with the nozzle chamber, the nozzle chamber being in fluid communication with an ink supply channel through the substrate for supplying the nozzle chamber with ink;
a closure that is operatively positioned with respect to the ink supply channel, the closure being displaceable between a closed position in which the closure closes the ink supply channel and an open position in which ink is permitted to flow into the nozzle chamber; and
an actuator that is connected to the drive circuitry and the closure so that, on receipt of an electrical signal from the drive circuitry, the actuator can act to displace the closure between the closed and open positions;
an ink reservoir in fluid communication with each ink supply channel; and
a source of oscillating pressure that imparts an oscillating pressure to ink in the reservoir, so that, when the closure is displaced into the open position, a drop of ink can be ejected from the ink ejection port.
8. A printhead chip as claimed in claim 1, in which the actuator and the closure are positioned within the nozzle chamber.

U.S. Patent No. 6,644,767 CLAIMS

6. An ink jet printhead chip which comprises:
a substrate,
a plurality of nozzle arrangements positioned on the substrate, each nozzle arrangement comprising a nozzle chamber including wall and an ink ejection port defined in at least one wall in fluid communication with the nozzle chamber; and

a closure that is operatively positioned with respect to the ink ejection port, the closure being displaceable between a closed position in which the closure closes the ink ejection port and an open position in which ink ejection port is open,

an ink reservoir in fluid communication with each nozzle chamber; and
a source of oscillating pressure that imparts an oscillating pressure to ink in the reservoir, so that, when the closure is displaced into the open position, a drop of ink is ejected from the ink ejection port.
12. The printhead chip of claim 6 wherein the closure is located within the nozzle chamber.

Allowable Subject Matter

7. Claims 2-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claims 2-7 is the inclusion of the limitation of an ink jet printhead chip that includes a plurality of nozzle arrangements wherein each nozzle arrangement having an actuator in which each actuator is elongate and is anchored at one end to the substrate, the actuator being shaped so that, in a rest condition, the actuator encloses an arc, the actuator including a heating portion that is capable of being heated on receipt of an electrical signal to expand, the heating portion being configured so that, when the portion is heated, the resultant expansion of the portion causes the actuator to straighten at least partially and a subsequent cooling of the portion causes the actuator to return to its rest condition thereby displacing the closure between the closed and open positions. It is this limitation found in the claims, as it is claimed in the combination of, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

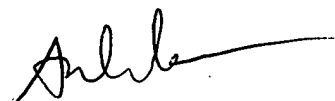
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Inui et al (US 5,719,604) disclose a thermal inkjet printhead having a buckling body including a heater layer buckled when a current is applied. Kashino et al (US 6,174,050) disclose a liquid discharge head having a flow path including a bubble-generating region in which bubbles are generated, a movable member having a free end on the side of the discharge opening.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to An H. Do whose telephone number is 571-272-2143. The examiner can normally be reached on Monday-Friday (Flexible).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



An H. Do
January 6, 2005